



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 2828 BOILER TREATMENT

Emergency Telephone Number

Medical (708) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 2828 BOILER TREATMENT

DESCRIPTION: An aqueous solution of acrylate polymer, diethylaminoethanol, sodium polyphosphate and sulfite

NFPA 704M/HMIS RATING: 2/2 HEALTH 1/1 FLAMMABILITY 0/0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX. %
Sodium sulfite	7757-83-7	5-10
Sodium tripolyphosphate	7758-29-4	1-5
Diethylaminoethanol	100-37-8	1-5
Sodium hydroxide	1310-73-2	1-5

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING: Causes irritation to skin and eyes. Do not get in eyes, on skin or on clothing. Wear goggles and face shield when handling. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally. Keep container closed when not in use.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Immediately flush with water for at least 15 minutes while holding eyelids open. Call a physician at once.
SKIN: Immediately flush with water for 15 minutes. For a large splash, flood body under a shower. Call a physician at once.
INGESTION: Do not induce vomiting. Give water. Call a physician.
INHALATION: Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.



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SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: Can cause moderate irritation.
SKIN CONTACT: Can cause moderate irritation.
INGESTION: Can be harmful. Can trigger asthmatic attacks in sensitive individuals.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

TOXICITY STUDIES: Toxicity studies have not been conducted on this product, but toxicity studies of the ingredient(s) in Section 2 have been reviewed. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS):

Diethylaminoethanol LD₅₀ = 1,300 mg/kg

Sodium tripolyphosphate LD₅₀ = 5,400 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS):

Diethylaminoethanol LD₅₀ = 1,260 mg/kg

Sodium tripolyphosphate LD₅₀ = Greater than 7,940 mg/kg

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):

SKIN IRRITATION INDEX DRAIZE RATING:

Diethylaminoethanol - Corrosive

0.0/8.0 Sodium Tripolyphosphate - Practically non-irritating

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):

EYE IRRITATION INDEX DRAIZE RATING:

Diethylaminoethanol - Corrosive

10.0/110.0 Sodium Tripolyphosphate - Slightly irritating

OTHER TOXICITY RESULTS: Diets containing 0.05, 0.5, and 5.0% Sodium Tripolyphosphate were fed to rats over 24 months. At the 5.0% level, growth retardation, elevated kidney/body weight ratios, and chronic tubular nephropathy were observed. The no-effect level for chronic toxic effects was 0.5%. No adverse effects were observed in a 3-generation rat reproduction study with the rats fed diets containing 0.5% Sodium Tripolyphosphate.



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SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear light yellow FORM: Liquid
DENSITY: 9.2-9.7 lbs/gal.
SPECIFIC GRAVITY: 1.11-1.16 @ 77 Degrees F ASTM D-1298
pH (NEAT) = 12.6-13.6 ASTM E-70
VISCOSITY: 5 cps @ 77 Degrees F ASTM D-2983
FLASH POINT: None

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None

EXTINGUISHING MEDIA: This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use water to cool containers exposed to fire.

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve NO_x or SO_x under fire conditions.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with strong acids (eg. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes. Product is corrosive and highly reactive to aluminum.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO₂, NO_x, SO_x may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. If significant mists are generated, use either a chemical cartridge respirator with a dust/mist prefilter or supplied air.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles when attaching feeding equipment, doing maintenance or handling product. Examples of



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SECTION 10 PERSONAL PROTECTION EQUIPMENT

(CONTINUED)

impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton, and butyl (compatibility studies have not been performed).

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (708-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D002.

As a hazardous liquid waste, it must be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to a licensed industrial waste landfill (Hazardous Waste Treatment, Storage and Disposal facility). A hazardous liquid waste can also be deep-well injected in accordance with local, state, and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - CORROSIVE LIQUIDS, N.O.S.,
8, UN 1760, PG III
CONTAINS - SODIUM HYDROXIDE



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SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below.

Sodium sulfite - Irritant, may trigger asthmatic attacks

Sodium tripolyphosphate - Irritant

Diethylaminoethanol - Irritant, corrosive

Sodium hydroxide - Irritant

Diethylaminoethanol = TWA 10 ppm, 48 mg/m³ (skin) ACGIH/TLV

Sodium hydroxide = Ceiling 2 mg/m³ ACGIH/TLV

Diethylaminoethanol = TWA 10 ppm, 50 mg/m³ (skin) OSHA/PEL

Sodium hydroxide = Ceiling 2 mg/m³ OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:

This product contains sodium hydroxide, a Reportable Quantity (RQ) substance and if 50,000 pounds of product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802).

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients on the List of Toxic Chemicals.



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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act:
When use situations necessitate compliance with FDA regulations, this product is acceptable under 21 CFR 173.310, boiler water additives. The following use limitations apply: Maximum dosage is not to exceed 900 ppm product in the steam and may not be used where steam produced will contact milk or milk products.

U. S. DEPARTMENT OF AGRICULTURE (USDA):

USDA Inspection and Grading Programs - Food Safety and Inspection Service:
This product is authorized by USDA for use in federally inspected meat and poultry plants. Authorized use is under category G6.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 11 for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15
(formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

This product contains the following ingredients covered by the Clean Water Act:

Sodium phosphate, tribasic - Section 311

Sodium hydroxide - Section 311

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

This product does not contain any chemicals which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

The following ingredient(s) are disclosed for compliance with State Right To Know Laws:

Diethylaminoethanol

100-37-8



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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

Sodium hydroxide	1310-73-2
Sodium polyacrylate	9003-04-7
Sodium sulfite	7757-83-7
Sodium tripolyphosphate	7758-29-4
Water	7732-18-5

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

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